BURTON W. CHACE PARK
MASTER PLAN

County of Los Angeles
Department of Beaches and Harbors

June 11, 2009

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BURTON W. CHACE PARK MASTER PLAN

Acknowledgements

PREPARED FOR

Los Angeles County
Department of Beaches & Harbors
13837 Fiji Way Marina del Rey, CA 90292

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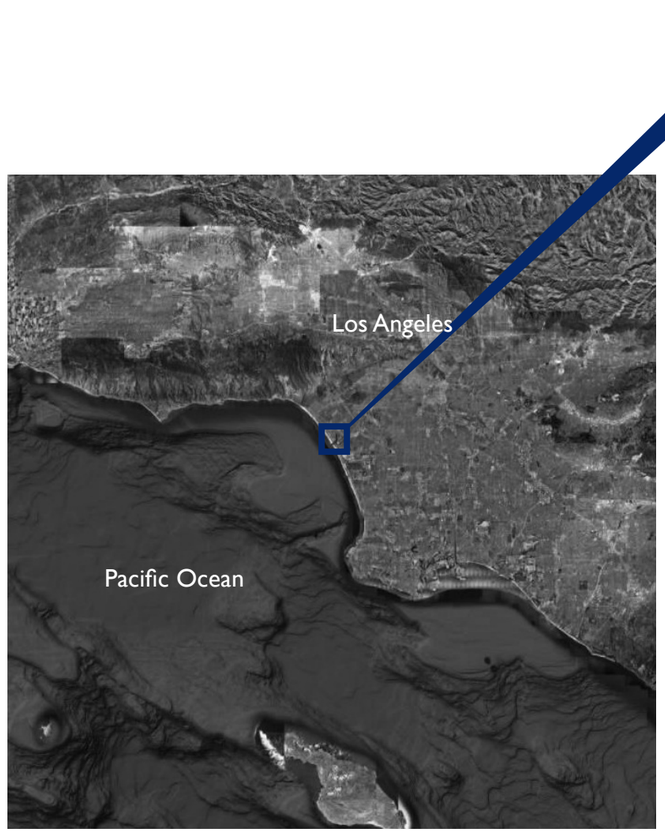
Project Vicinity Map



Burton W. Chace Park as it exists today.

Executive Summary

The Master Plan for Burton W. Chace Park envisions the creation of a civic and recreational center for Marina del Rey that will energize and revitalize the community and serve as its heart. A campus like layout of high performance green buildings intertwined with productive landscape systems will create a reference point that will inspire future development in the Marina. The artistic and ecological park design will similarly set the standard for a re-imagined approach to Marina landscapes that captures the island-like playful imagery of the early design while integrating landscape elements into systems that emphasize native plantings and provide continuity and green infrastructure. Boating and water are the central elements that shape the Marina and the park design celebrates these through an exploration of wind and water, providing a public Recreational Boating Center, and creating and enhancing views and connections to the water.

From one's entry onto Mindanao Way, a visitor will know they are entering a new era in the Marina's design as the swales on either side of the street create a green avenue and convey stormwater to an underground storage facility under the parking courtyards. The parking lots and buildings are harvesting water for non potable use in buildings, washing boats, irrigating the landscape and water features. Evidence of this is all around, in the building cisterns, the parking lot swales and the grey water swales fronting the buildings and leading into the park. These are all well planted natural features that are attractive and join to form a green river of rushes and sedges meandering down into the center of the park.

The architecture of the buildings is light, playful, modern, and transparent, and conveys the efficiency and sparseness of a design wrought by a shipwright. As county buildings, they will meet the equivalent of LEED Silver Certification for energy and environmental performance and serve as the flagship of Los Angeles County's commitment to its Green Building Program that was adopted in April, 2008. These buildings have been grouped together in order to create greater symbiosis between them and the landscape and parking has been supplemented by an offsite parking structure allowing the park to double in size from 7.5 to 15 acres. This ambitious Master Plan to remake an older park and complex of buildings will take several phases to implement. As a keystone of the Marina's civic and economic well being, the effort to transform Burton W. Chace into a modern ecological park and community center will provide dividends for many years to come.

A bird's eye view of a revitalized Burton W. Chace Park.

Concept Plan - Overview

Telling the Story of Burton W. Chace Park

The new Master Plan for Burton W. Chace Park tells a story about water, boating, and the maritime environment. The new design creates a landscape where water is at the center and edges of one's experience and that celebrates the importance of water in our lives and its many expressions in the landscape. Park visitors are encouraged to explore the characteristics of water in various features and elements, engage in recreational boating, and note the power, uses and directions of the wind.

The re-imagining of the park begins at the intersection of Mindanao Drive and continues all the way through the park to a new fishing pier on the Main Channel. The transformation occurs not only with how the park looks and feels, but how it functions. In keeping with Los Angeles County's 2008 adoption of its Green Building Program, the park becomes a sustainable green space in harmony with its buildings that provides valuable environmental services for the community such as generating electricity and cleaning stormwater.

Landscape features like the grey water-supported "Green River" demonstrate many of the principles of sustainable design in a highly visible and engaging way. Through the creation of playful spaces and elements and their alignment with environmental features, the park becomes a place of human well being, exploration and play, as well as a productive multi-functioning landscape.

Entering a New Green Mindanao Way

Travelling toward the waters of Marina del Rey down Mindanao Way, one experiences a sense of passage through a green gateway into the park. Mast-like sculptures at the entry from Admiralty Way announce the theme of boating and the element of wind. Recomprising the tropical island theme of the Marina, the street conveys the character of an island landscape with evergreen trees shading both sides of the street and swales lined with cobbles, boulders and colorful plantings edging the street.

The street is reconfigured by removing the center median and providing a turning lane into a new parking structure near the park. The small sidewalks on both sides of the street are combined into a larger single sidewalk on the south side. The stormwater treatment swales described above run the length of the street to the Park's central parking court and terminate in an elliptical planter landscaped like a dry creek.

Arriving at the Courtyard Campus

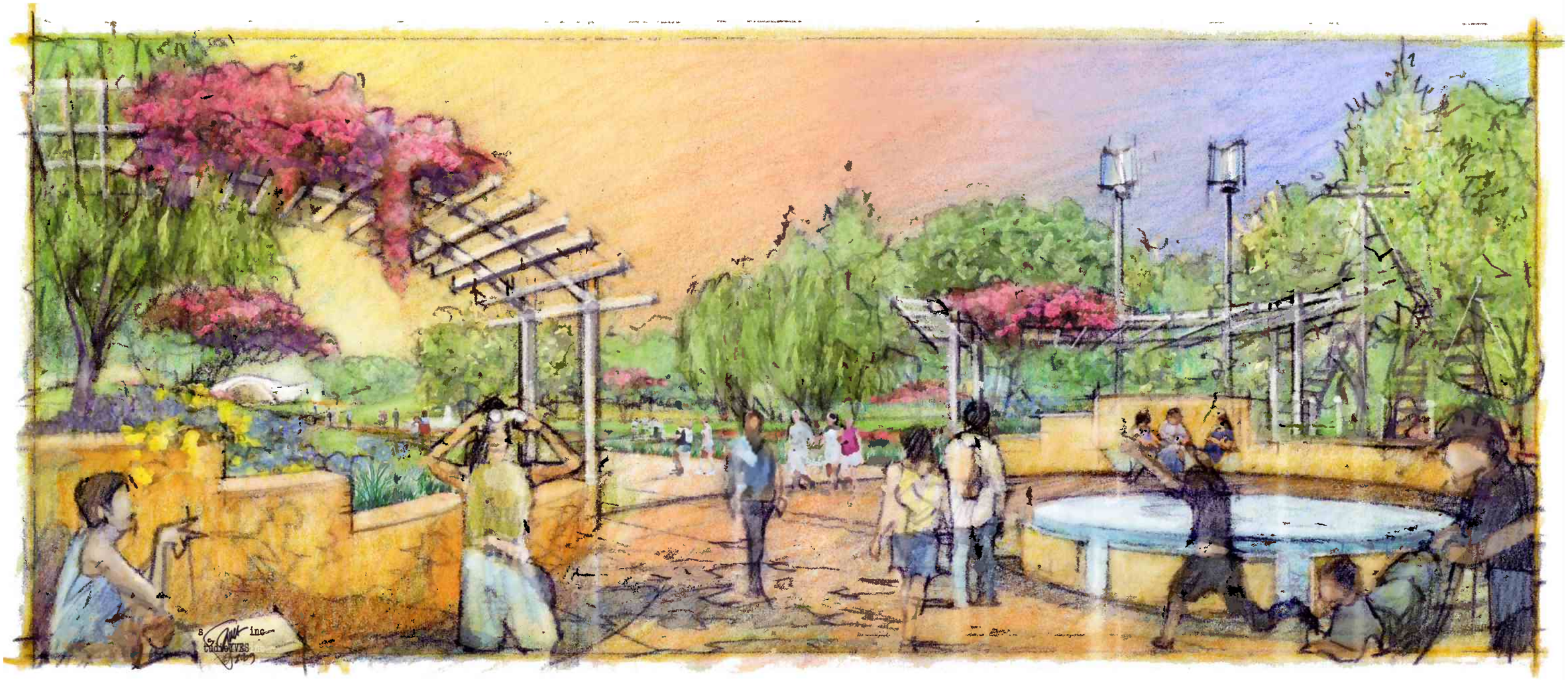
An elegant paved courtyard at the end of Mindanao Way signals one's arrival to the park and one enters a space framed by trellises wrapped with fragrant vines. The view down Mindanao is framed by the trees and focuses on a horizontal line pool that creates soft sounds of falling water that relay the park's message of water in an understated way. Distinctive modern buildings frame the courtyard with an airy, light, and transparent flair. The Marina del Rey Community Center, the relocated Santa Monica Windjammers Yacht Club, the Recreational Boating Center, and a small café each anchor a corner of the courtyard and create a campus of civic buildings and landscape spaces.

The green street concepts shown here for Mindanao Way will be adapted for Los Angeles' dry climate.

The Courtyard Campus

The Yacht Club is a distinctive two story building well crafted like the work of a Shipwright that has a sense of weightlessness -- almost like a floating vessel. The Community Center is inviting with a broad front porch filled with chairs and tables. Its interior supports the social life of the Marina and is filled with public rooms and meeting spaces overlooking the Marina. A large adjacent courtyard offer enclosed outdoor space for daily use and special events. The Recreational Boating Center is a large iconic building with multiple bays for storing non-motorized boats and a wing-like roof that sails above the waterfront. The Café building provides an outdoor dining experience at the Waterfront Walk with restrooms for visitors and boaters alike. Greywater and stormwater harvested from the buildings and paved spaces flows in a "green river" of rushes towards the park entry.

The parking areas supporting these buildings are distinctively landscaped with large swales between bays to clean stormwater, and large trees framing the buildings and shading the paved areas to cool them down. An underground storage tank beneath the central parking court would capture stormwater from streets and parking areas after its biofiltration in the swales to be used for landscape irrigation. The parking areas provide both car parking and mast-up storage as shown in the park program and plan. Drop off areas are clearly indicated for park and building entrances. A parking structure just outside the park provides additional spaces for all park users so that there is no net loss of parking.



The gateway to Burton W. Chace Park

Following the Green Way

The fountain encircled by low walls and trellises draws one to the central park path, the Green Way. The ripples across the fountain's water, and the reflection of the sky lift one's attention to the environment of the Marina, and the interaction of the wind and the water.

Wind turbines and sculptural wind vanes announce the wind speed and direction and power landscape lighting, irrigation and water elements. The green river of reeds and rushes that begins in front of the campus buildings flows into the park visible behind the low entry walls, connecting the building and landscape processes, and recreating the water cleaning function of the wetlands that once occupied Marina del Rey. As the semi circle of walls part for the Green Way path they become a long flowing seatwall, golden in color, that is a unifying thread running through the park and a medium for story telling about the environment of the Marina and boating.

The Green Way carries one into the core of Burton W. Chace Park along a broad walkway that is like the trunk of a tree branching off in many directions and offering diverse paths to explore and experience the diversity of park landscapes. Filled with families and friends this path bisects the Chace Greens, crosses the green river and wetland garden by boardwalk and bridge, wanders past the Mosaic Gardens, crests a low saddle that opens a view to the Marina, and then meanders down to the Performance Green and southwest tip of park. The low storytelling wall flows alongside it expounding on park themes and offering seating, contrast to landscape plantings, and continuity of form through the park.

Two gardens provide alternate entry points into the park onto the Chace Park Greens: a native and drought tolerant demonstration garden on the south side and a children's boat-themed play area to the north side. The demonstration garden is aromatic, with quiet seating areas and an array of colorful flowers in all seasons. The play area contains a whimsical lighthouse and a pier that hovers over an ocean of grass. Toy boats can be maneuvered in small flumes of water or a sea of sand.

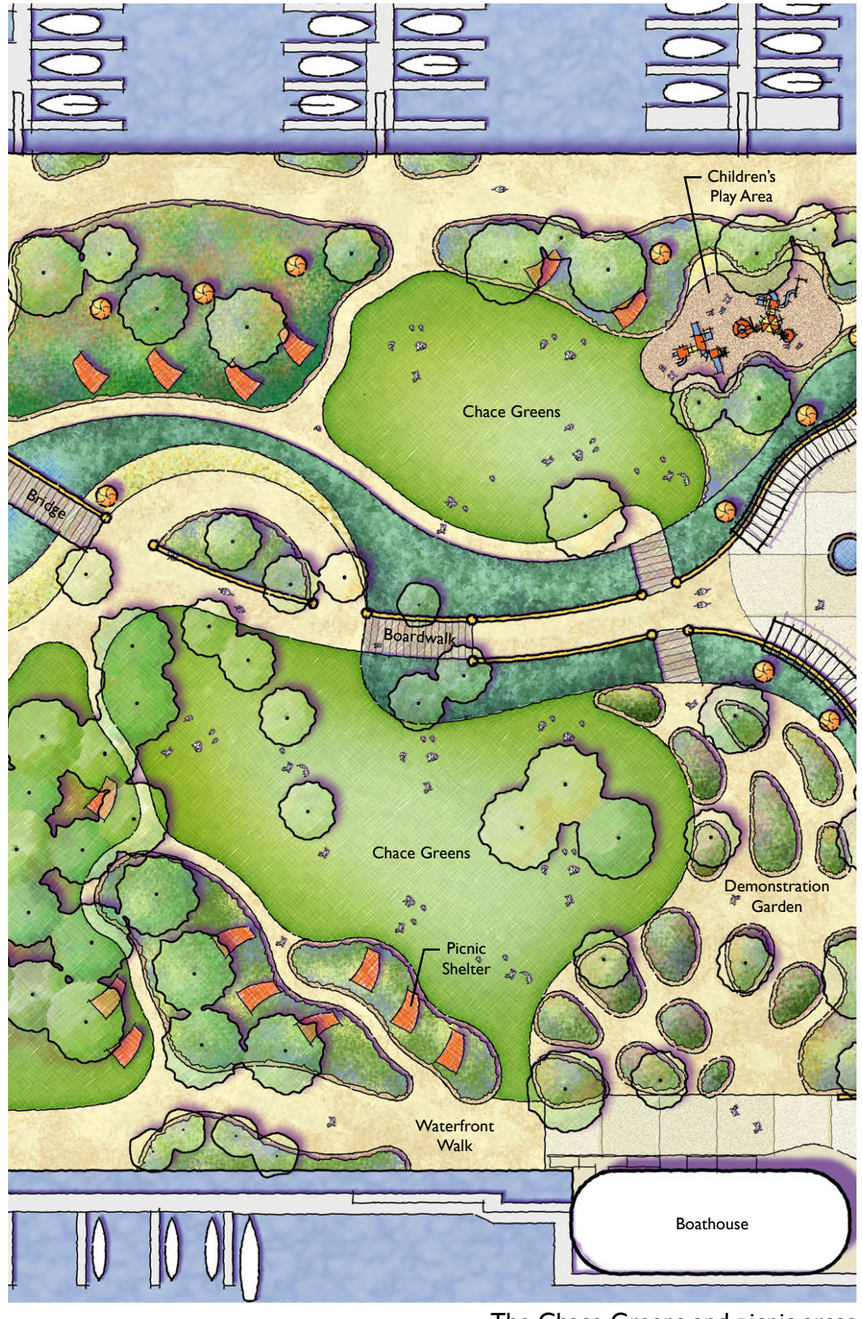
The Green Way

Enjoying the Chace Greens

Just minutes down the Green Way, one finds oneself surrounded by the large open spaces of the Chace Greens framed by groves of trees and picnic and garden areas. The layout of the greens opens views across the park to the waterfront walks and Marina channels beyond. These open turf areas dotted with a few shade trees are intended for active play such as kite flying, frisbee throwing, and small impromptu ball games.

All the picnic and garden areas surrounding the Greens face in to the turf so families can spread out for picnics and play at the same time. From a distance the sail-like trellis structures of the picnic shelters look like boats racing in a stream, but up close they have vines growing on them for shade and distinctive flowers and fragrance. These turf areas lie in close proximity to the park entrance and the children's play area to support families with children and all who have a shorter time period to explore the park.

Water harvested by the street and parking lot stormwater systems provide the initial basis for irrigating park turf and run-off is directed to the green river swales that flow to the wetland pond area. Turf is provided as it is the most appropriate surface for active play and is not used as a visual amenity only.



The Chace Greens and picnic areas

Exploring the Mosaic Gardens

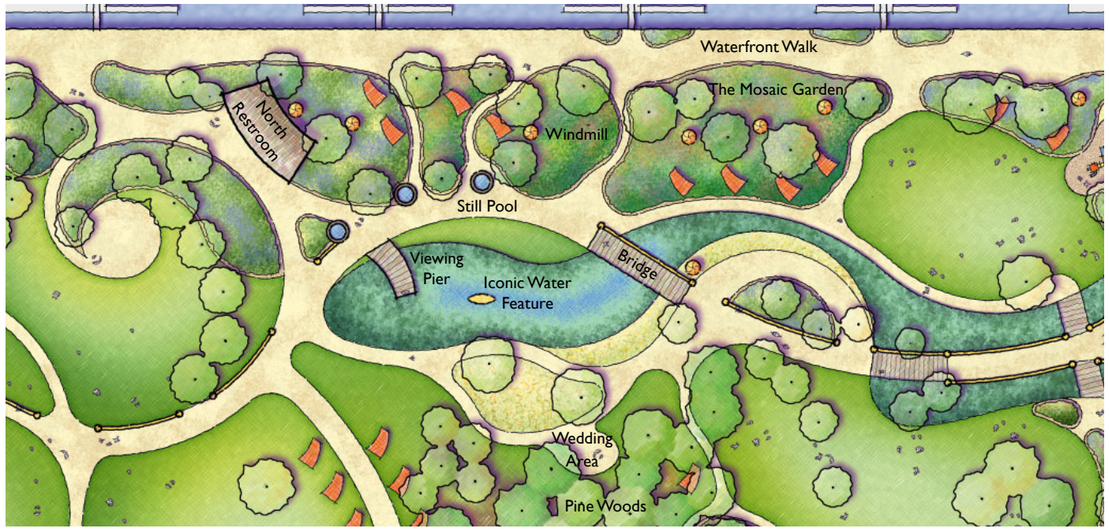
As one continues to travel through the park, the pathway becomes less direct and more braided, inviting one to walk through a variety of gardens filled with contrasting plant textures. This part of the park echoes the historical landscape theme of the marina by resembling the beach and interior of island atolls. The series of garden mounds resemble islands in a stream, and one can wander between them out to the north Waterfront Walk. All park pathways are paved with a stabilized decomposed granite material that creates an island beach-like environment while providing universal access.

A water garden in the center of the park offers a contrast to the drought tolerant, textured plantings of the Mosaic Garden and the pine woodland area to the south. Protected by rushes and reeds hiding a small railing, this garden creates a sense of refuge and contemplation in the center of the park. Along the pathway through this central part of the park, visitors discover gathering places and tree-shaded areas with benches. These are places to sit, talk and connect with nature and experience a quiet outdoor space.

The Mosaic Gardens house a second series of picnic areas that are more suited to less active and smaller gatherings than those located near turf areas. Each picnic area enjoys a sail like trellis and many have BBQ grills. They are sprinkled throughout the gardens for privacy and peaceful relaxation.

The existing grove of pines south of the current community center is preserved in the new design and it becomes a place for a shaded walk among the trees and ground cover plantings. It also serves as a backdrop for a more secluded wedding and group picnic area on the southside of the wetland pond. This area in the center of the park is a quiet place with an array of woodland, meadow and wetland landscape areas that provide a contrast of textures and forms in a more naturalistic way than the Mosaic Gardens.

The Mosaic Gardens features different colors and textures of plants



The Mosaic Gardens

Braided trails and seating areas in the Mosaic Gardens

Gathering at the Marina Green

From the Mosaic Gardens, one walks up the main pathway to a small saddle between two knolls. At this moment, the view of the rest of the park and the marina opens up. The entire lawn area slopes away to the southwest to a free-form performance tent. In this new design, the Marina Green has been re-graded so that the existing southern knoll has been pulled back to the east to open up views to the main channel and create a larger area for audience seating on the lawns.

The performance area at the southwest tip of the Marina Green is paved to accommodate the custom designed performance pavilion. The golden colored story wall feature ends here in a curling wavelike pattern adjacent to the performance space and offers additional seating for viewers.

The existing wedding area on the northern knoll will have a redesigned seatwall and trellis (not shown here) but retains its excellent views and proximity to the water. Receptions can be held in the park or in the nearby Community Center and its courtyard.

In two locations near the Marina Green, visitors and boaters can find restrooms; the northern restroom also contains private showers and laundry facilities for boaters. These buildings are distinctive in character and lit at night to be lantern-like.

Performance pavilion and seating area at the Marina Green.

The Waterfront Walk: The Unifying Element

Throughout Marina del Rey, the waterfront walk flows along the water's edge creating a vibrant pedestrian corridor and connecting Marina residents and visitors to the water. In Burton W. Chace Park, some of the important design elements of the Waterfront Walk are retained to create a unified design impression for the Walk, and some elements are changed to highlight the distinct feel of the Park. For example, new light and transparent metal railings are similar throughout the Marina and define the water's edge without distracting from viewing the Marina's activities. In an important difference, the Waterfront Walk in Burton W. Chace Park is paved with a stabilized decomposed granite to create a natural beach-like feel while still providing universal accessibility. The unity of paving throughout the Park makes the park feel larger. By placing planting beds in places along the water's edge, the design creates a meandering path along the waterfront that connects the landscape all the way out to the water and envelopes the Waterfront Walk in the park.

Strolling along the waterfront walk in the park one also finds interpretive panels that highlight the cultural and natural resources of Marina del Rey and the maritime history of Southern California. A new fishing pier anchors the northwest corner of the park and the southwest point provides great views down the main channel. A WaterBus location on the dock below offers travel opportunities across the water. Benches and smaller seat walls create comfortable places to sit for individuals and groups and enliven the scene along the Waterfront Walk.

The Waterfront Walk at the southern edge of the park

Green Building Summary

Going Green in Burton W. Chace Park

On Earth Day in April 2008, Los Angeles County approved a green building program for all County buildings. The program requires the equivalent of LEED Silver certification for new buildings, the implementation of low impact development approaches to stormwater management, and measures to achieve drought tolerant landscaping requirements.

The Department of Beaches and Harbors determined that the redesign of Burton W. Chace Park, with its landscape, buildings and parking lots, created a prime opportunity for a demonstration project and instructed RRM Design Group to pursue a master plan vision that would set the standard for sustainable development in the Marina. At the heart of the sustainable vision for Burton W. Chace Park is the creation of linked building and landscape systems that harvest and recycle rain water and grey water and create human-scaled generative landscapes that provide aesthetic, recreational and restorative experiences for people.

Aiming to meet the three main goals articulated by the new Sustainable Sites Initiative of the LEED certification system, the park site plan enhances the ecological services provided by the site, increases habitat and biodiversity, and improves human health and well being. Starting with the site planning effort, existing groves of trees are identified and preserved. Site grading is balanced between cut and fill to eliminate on or offsite hauling. New buildings are clustered together to enlarge the park area. Thus redesign of both the buildings and their settings in the park allows for the integration of building and landscape systems in a way that mutually reinforces environmental and human health and well being.

Green Buildings

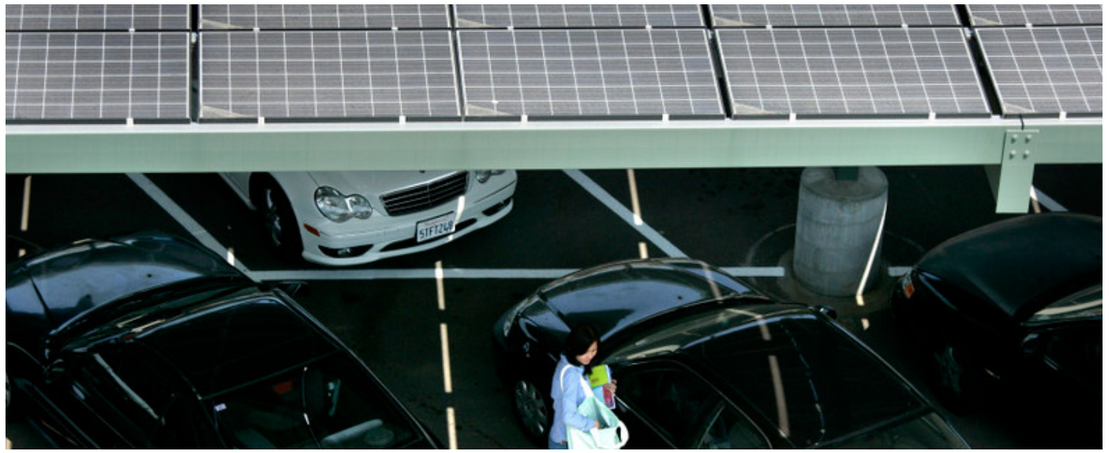
Meeting or exceeding a LEED Silver Certification requires the buildings address building energy efficiency, indoor air quality, natural lighting and ventilation, renewable energy generation, and the use of non toxic materials with low embodied energy. Roofing systems must be well insulated, high albedo (reflective) and/or green roofs with priority given to harvesting rainwater for use and integrated solar panel systems. In order to incorporate harvested rainwater for toilet flushing, the buildings will need to have a reclaimed/non potable plumbing system in addition to the typical potable plumbing system. The Master Plan proposes to harvest grey water from the buildings and transport it via a "Green River" system of subsurface flow in planted reed beds into the park site to become a major park feature. Wind turbines are proposed to pump the water features and generate supplemental electricity for park use.

In addition to integrating these components, the site is designed to make them highly visible and compelling features. The intent is to develop an interpretive overlay that engages site visitors and explains the ecological services and energy efficiencies provided by sustainable site elements. The images of future buildings have been provided to suggest how their future design might appear. However, the design of these buildings will be developed at a future time and may take different form while following the intent of these guidelines.

Daylighting and natural ventilation of the Recreational Boating Center building.

By Sun Light & Power; Berkeley, CA.

Solar panels over a green roof.



Optional solar shade structures on top floor of parking structure.

Community Center building with cisterns for rainwater harvesting.

Embracing Low Impact Development

Burton W. Chace Park has been redesigned to maximize the harvesting and re-use of stormwater and grey-water. Due to the high water table and difficulty and/or inability to infiltrate water within the context of the mole construction system, the primary strategy for stormwater will be to capture it and store onsite for appropriate re-use. Swale systems line or run down the center of all street and parking lot areas in order to provide biofiltration of stormwater run-off and these systems are directed to an underground storage system beneath the parking courtyard. During high-flow events, run-off would be discharged into the Marina, only if it exceeded storage capacity and after appropriate water quality treatment in swale systems. Roof run-off will be stored in above ground aesthetic cistern systems to be used for prioritized non potable uses.

On the following page 14 is a matrix describing the approximate amount of water of several types anticipated to be supplied by site buildings and landscape, and the optimal uses of those water types. The intended end result is to reclaim a significant portion of the buildings' used water for other uses, such as boat washing and irrigation. Upon completion of additional design steps for the buildings and analysis of the amount of projected use of different facilities, a more precise picture of how water supply for re-use will be generated. Domestic water supply would be used to back up the rainwater and grey water should they become depleted.

Windmills to offset park energy use.

Promoting Water Re-use Strategies

The Burton W. Chace Park is located at the mouth of Ballona Creek, yet it's fresh water resources come from far away and deserve a great deal of attention to conservation and re-use strategies. Because evaporation and evapo-transpiration from plants is much higher than rainfall rates in this region, appropriate utilization of as much of the water available onsite as possible is vitally important to the long-term sustainability of the park development. The proposed land plan yields a variety of opportunities for using water onsite to develop different environments and ecosystems.

Because of its purity, rainwater from roofs is of the highest value and should be stored for use as a minimal amount of treatment is required to achieve the required permits. Landscape, hardscape, and street runoff require more treatment but are also very pure water sources which can be re-used for toilet flushing. Greywater requires a higher level of treatment and cannot come into human contact. It is therefore only available for subsurface landscape application. However, because greywater is available year-round and minimal storage is required, it is ideal for irrigation. Finally water from the marina and from onsite wells can be utilized in salt tolerant landscaping or in developing salt marsh environments capable of treating contamination from marina activities. This option may be explored in the future, in park design development.

WATER RESOURCE	POTENTIAL ANNUAL SUPPLY (GAL)	TREATMENTS	RE-USE STRATEGY (BY PRIORITY)
Rainwater			
Roofs Only	322,130	Screening and filtration	Water feature Toilets Small open pond
Greywater			
Showers	155,003	Settling, filtration wetland treatment, and disinfection for boat washing	Boat washing Green river evaporation losses
Lavatory Sinks	38,751		
Boat Washing	219,000		
Stormwater			
Street/Parking Lot	99,638	Screening and filtration	Augmenting greywater reuse system Landscape irrigation
Sidewalk	37,193		
Small Pond	850		

Summary of water reuse strategies. (Sherwood Design Engineers, 2009)

Habitat Enhancement

The existing site is largely composed of trees and turf. Habitat diversity will be increased through the creation of native plant gardens and larger areas of diverse native and adaptive plantings within the mosaic gardens in the central area of the park. Existing groves of trees will be preserved, and pathways systems developed within them in order to limit foot traffic under the trees. This will enable the establishment of understory and mid-story plantings to increase the diversity of plant structure and habitat niches.

The effort to re-grade portions of the park allows for the creation of the green river grey-water swale system that recycles grey water from the buildings into the landscape providing an important source of new habitat in the park. This large linear wetland element creates many diverse edge conditions. Creating landscapes with many different places on a gradient from very dry to wet year-round supports a diversity of plant life. An option for design development might include supplementing the wetland pond with Marina water to create a brackish marsh environment and providing for discharge into the Marina to allow water cycling.

An important part of restoring habitat is the restoration of site soils. Because Marina del Rey was built up into moles above what was once a wetland, restoring the soil conditions and representative native plant communities that naturally existed on the site and nearby is particularly challenging. However, effort paid to improve site soils will increase soil microfauna diversity, increase sinkage of carbon in site soils, reduce the need for irrigation, and grow healthier plants. Providing an onsite composting facility should be part of the next phase of design development for the park in order to increase onsite nutrient recycling and reduce imported nutrient supplementation.

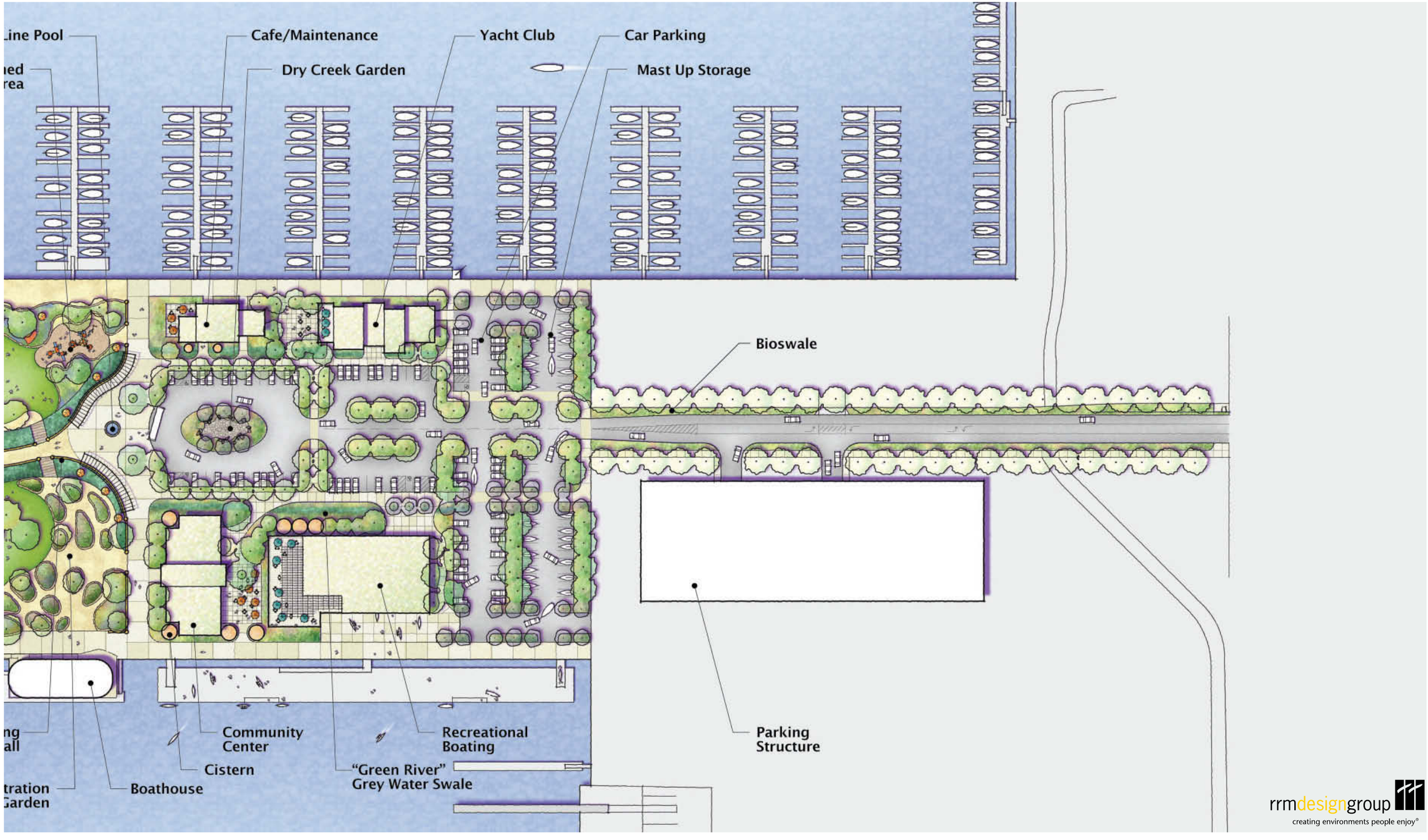
Plant communities that are representative of native beach, wetland, bluff and coastal scrub communities will form the matrices for the park planting design. Designing for native bees and other beneficial insects will enliven the gardens and attract song birds. Important parameters of such design include creating plantings with a great diversity of plant species, inter-planting them to create structural complexity, and repetition of elements for consistent habitat.

By Floating Islands West, LLC

Pond and wetland plantings add valuable habitat.

Interpretive sign explains how bioswales remove pollution from street run-off.


Bridge
Windmill
Large Horizon Line Pool
Restroom
Pier
Iconic Water Element
Picnic
Boating-Themed Play Area
Small Still Water Pool
Wedding Area
Fishing Pier
Waterfront Walk
WaterBus Landing
Performance Pavillion
Restroom
Open Water
"Green River" Grey Water Swale
Storytelling Wall
Marina Green
Wedding Area
Chace Green
Demonstration Garden



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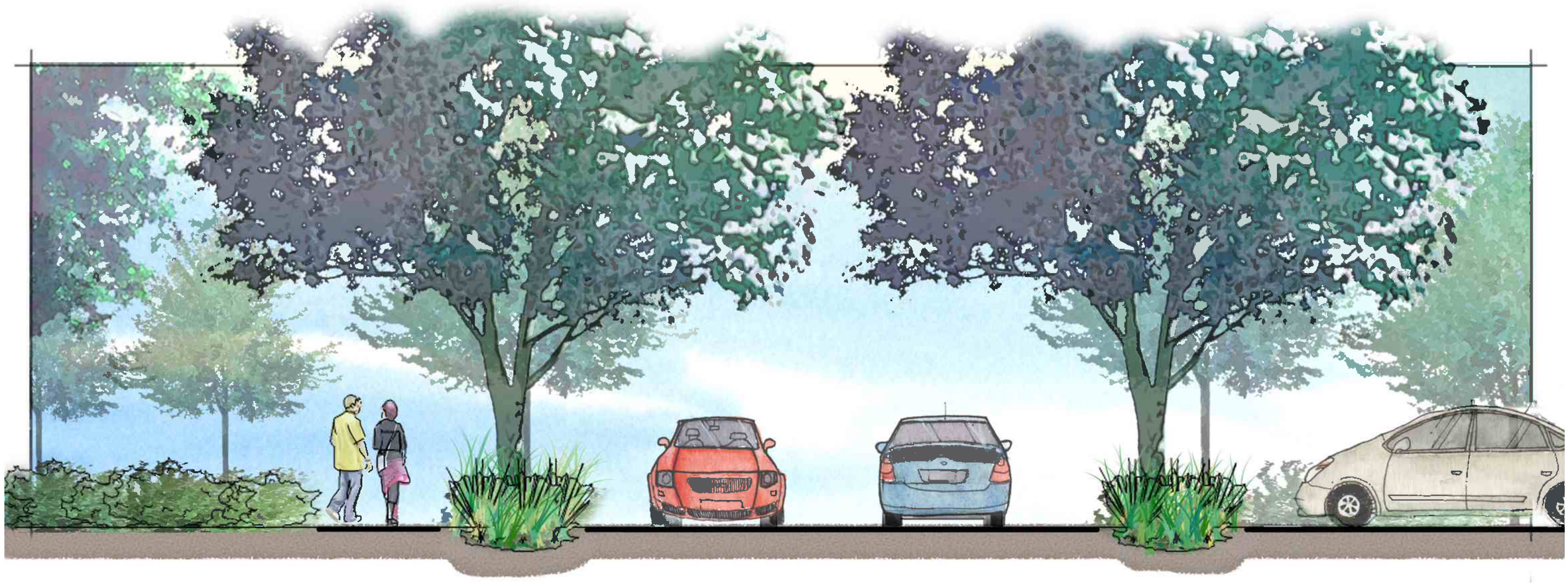
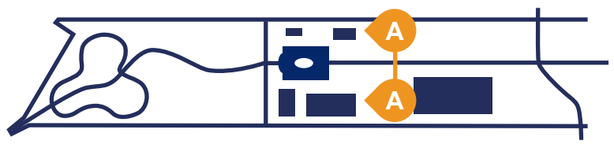
Sections - A

Scale: 1” = 5’-0”





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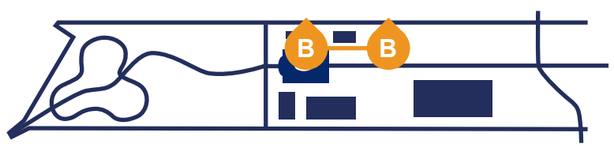

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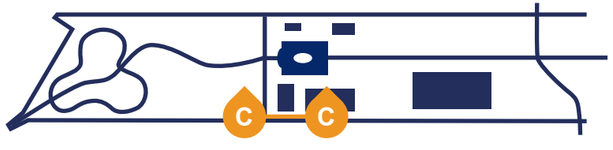

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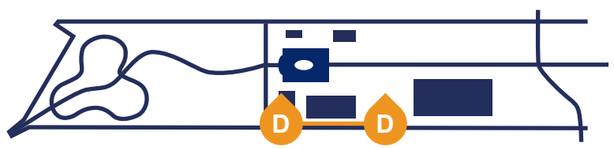

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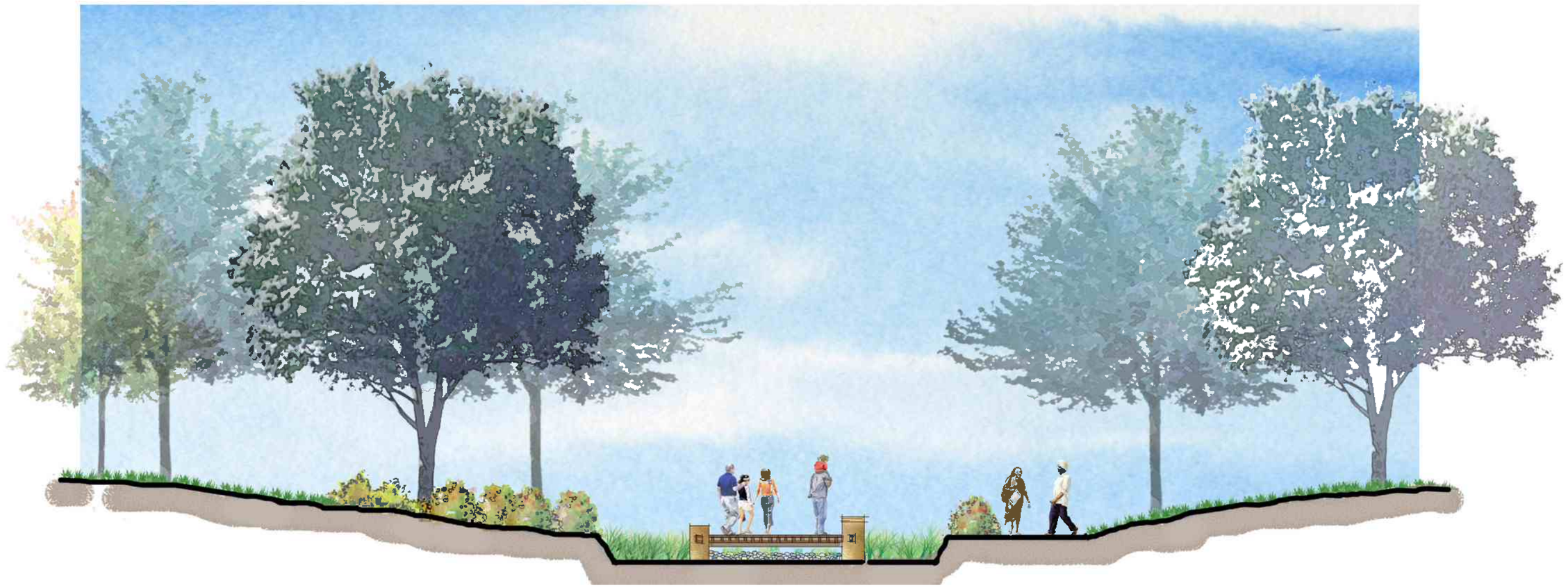

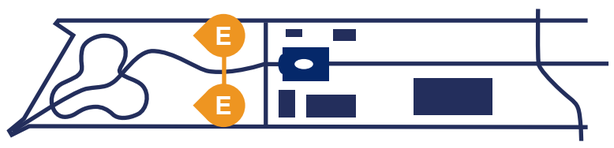

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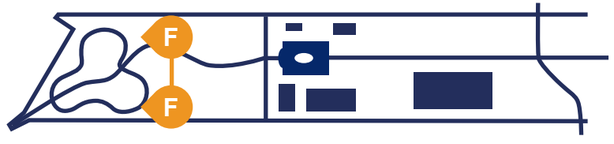

Sections - G

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Program

LOCATIONS	EXISTING	PROPOSED IN PARK / REQUIRED
Park Area (exclude buildings & associated parking)	7.8 Acres	15 Acres
Waterfront Walk & Piers	Square Feet	Square Feet
Waterfront Walk	27,000 +/-	67,620 +/-
Fishing Pier	N/A	2,967 +/-
Belvedere Pier	N/A	1,800 +/-
Park Grounds		
Performance Green	67,324 +/- SF	127,143 +/- SF
Overflow Concert Viewing Area	36,904 +/- SF	N/A
Total Acreage of Concert Viewing	2.38 +/- Acres	2.92 +/- Acres
North Chace Green	N/A	20,826 +/- SF
South Chace Green	N/A	26,754 +/- SF
Wedding Sites	~2	4
Performance Tent Site	4,800 +/- SF	6,000 +/- SF
Pathways (Widths Range 5'- 16')	54,314 +/- SF	31,557 +/- SF
Water Way	N/A	14,475 +/-
Trees	251 +/-	365 +/-
Bioswales	N/A	23,600 +/- SF
Play Areas	N/A	18,360 +/- SF
Park Elements		
Benches	N/A	36 +/-
Picnic Tables		
with Shade Structures	6	16
without Shade Structures	12	16
Barbeque Grills	~18	24
Litter Receptacles	N/A	64
Dog Runs	480 +/- SF	N/A

LOCATIONS	EXISTING	PROPOSED IN PARK / REQUIRED
Buildings	Square Feet (Footprint)	Square Feet (Footprint)
Community Center	5,682	15,000 (8,800 SF)
Yacht Club	10,634	13,000 (6,500 SF)
Recreational Boating Center	N/A	30,800 (17,800 SF)
North Restrooms	600 (with showers)	2,400 (with showers)
South Restrooms	600	1,800
Cafe/Restrooms / Maintenance	N/A	3,773
Parking	Existing Spaces	New Spaces
Yacht Club - Total	173	45
(Auto Parking)	-	(27)
(Boat Parking	-	(18)
Park & Community Center	62	32
Recreational Boat Center	N/A	68
(Auto Parking)	N/A	(44)
(Boat Parking)	N/A	(24)
Bus	N/A	Temporary / Drop-off
Parking Structure (Off-site) (Park and Building Users)	N/A	160
Total	235	305

BURTON W. CHACE PARK

Program - Community Center

1ST FLOOR

ROOM	ROOM NAME	SQ/FT
A101	Main Lobby / Reception	500
A102	Reception / Open Office	250*
A103	Multipurpose Room (dividable by 4)	3,000*
A104	Multipurpose Room Storage	400
A105	Chair / Table Storage	120
A106	"Kitchen" / Serving	500
A107	Men's Restroom	200*
A108	Women's Restroom	200*
A109	Janitor Room	60*
A110	Electrical Room	150
A111	Kitchen / Catering	1,200
A112	Loading / Delivery	150*
A113	Stairs	180*
A114	Elevator	50
A115	Elevator Equipment Room	50*
	TOTAL	7,190
	10% structure prorate	719
	20% circulation prorate for applicable rooms (*4270 sq/ft)	854
	* designates rooms that 20% circulation prorate applies to	
	TOTAL	**8,763**

2ND FLOOR

ROOM	ROOM NAME	SQ/FT
A201	Roof Deck	3,000 +/-
A202	Staff Office	120*
A203	Staff Office	120*
A204	Staff (Manager) Office	150*
A205	Staff Workroom / Breakroom	250*
A206	Unisex Staff Restroom	75*
A207	General Office Storage	150*
A208	Large Conference (16 person)	360*
A209	Medium Conference (10 person)	220*
A210	Small Conference (6 person)	150*
A211	AV Storage Room	100*
A212	Classroom (dividable by 2)	1,000*
A213	Classroom Chair / Table / Storage	120
A214	Recreation / Fitness Room	750*
A215	Recreation / Fitness Room Storage	100
A216	Men's Restroom	200*
A217	Women's Restroom	200*
A218	Family Restroom	75*
A219	Janitor Room	60*
A220	Mechanical Room	125*
A221	Telecommunications / Phone Room	100*
A223	Stairs	180*
	TOTAL	4,425
	10% structure prorate	443
	20% circulation prorate for applicable rooms (*4205 sq/ft)	841
	* designates rooms that 20% circulation prorate applies to	
	TOTAL	**5,709**

3RD FLOOR (OPTIONAL)

ROOM	ROOM NAME	SQ/FT
A301	Roof Deck	4,000 +/-
	TOTAL	**4,000 +/-**

Total sq/ft of Building Footprint	**8,763**
Total sq/ft of Building	**14,472**

Program - Boating Center

BOATHOUSE / 1ST FLOOR

ROOM	ROOM NAME	SQ/FT
B101	Boathouse 1 (8 bays @ 20'x75')	12,000
B102	Maintenance / Repair Shop	875
B103	Secured / Parts Storage	250
B104	Rescue Boat Office	120*
B105	Rescue Boat Restroom / Shower	100*
B106	Fire Dept. Emergency Golf Cart Bay	150*
B107	Vending Machine / D.F. Alcove	50
B108	Men's Restroom	250*
B109	Women's Restroom	250*
B110	Electrical / Telephone Room	100
B111	Janitor / Mechanical Room	100*
B112	Small Equipment Checkout / Storage	100*
B113	Main Lobby	225
B114	Reception/ Sign-in / Open Office	250*
B115	First Aid Room	80*
B116	Boat / Kayak Rental Office	150*
B117	Electrical Room	150
B118	Elevator	50
B119	Elevator Equipment Room	50
B120	Loading / Delivery	120
B121	Stairs (2 @ 180 sf ea)	360
	TOTAL	15,780
	10% structure prorate	1,578
	20% circulation prorate for applicable rooms (*2080 sq/ft)	416
	* designates rooms that 20% circulation prorate applies to	
	TOTAL	**17,774**

2ND FLOOR

ROOM	ROOM NAME	SQ/FT
B201	Staff Office	120*
B202	Staff Office	120*
B203	Staff Office	120*
B204	Staff (Manager) Office	150*
B205	Staff Workroom / Breakroom	500*
B206	General Office Storage	200*
B207	Unisex Staff Restroom	75*
B208	Large Conference (16 person)	360*
B209	Small Conference (10 person)	220*
B210	Restroom / Elevator Lobby	400
B211	Men's Restroom	250*
B212	Men's Locker Room	250
B213	Men's Shower / Drying	200
B214	Women's Restroom	250*
B215	Women's Locker Room	250
B216	Women's Shower / Drying	200
B217	Classrooms (4 @650 sf ea)	2,600*
B218	Chair / Table Storage (4 @ 80 sf ea)	320
B219	General Classroom Storage	250
B220	"Kitchen" / Serving	250*
B221	Tape / Storage / AV Room	120*
B222	Mechanical Room	125*
B224	Telecommunications / Phone Room	100
B225	Janitor Room (1 each floor)	100
B226	Workout Room	500
B227	Restaurant	3,500 +/-
	Restaurant Roof Deck	3,500 +/-
	TOTAL	7,610
	10% structure prorate	761
	20% circulation prorate for applicable rooms (*5740 sq/ft)	1,148
	* designates rooms that 20% circulation prorate applies to	
	TOTAL	**13,019**

3RD FLOOR (OPTIONAL)

C301	Roof Deck	7,500 +/-
	TOTAL	**7,500 +/-**

Total sq/ft of Building Footprint	**17,774**
Total sq/ft of Building	**27,293**

BURTON W. CHACE PARK

Program - Café Building

1ST FLOOR

ROOM	ROOM NAME	SQ/FT
C101	Concessions / Cafe	800
C102	Restrooms / Showers	1,800
C103	Maintenance & Storage	600
C104	Janitor / Mechanical Room	150
C105	Electrical / Telecommunications Room	80
	TOTAL	3,430
	10% structure prorate	343
	TOTAL	**3,773**

2ND FLOOR (OPTIONAL)

ROOM	ROOM NAME	SQ/FT
C201	Roof Deck	3,200
	TOTAL	**3,200**

Total sq/ft of Building Footprint	**3,773**

Opinion of Probable Costs - General Description

The next few pages of this documents are devoted to presenting an Opinion of Probable Costs for all of the general improvements envisioned in the Master Plan for Burton W. Chace Park. This Opinion of Probable Costs was prepared by Davis Langdon, the consulting cost estimators retained by RRM Design Group to provide an independent projection of probable costs.

The project consists of watefront promenades, water features, piers, landscaping, play areas, picnic areas, four new buildings as well as two park restrooms, on-site parking spaces and offsite street improvements and parking structure.

Because the Master Plan envisions comprehensive refurbishment of the park, as well as the construction of significant new buildings, this is a plan that will likely need to be implemented in phases over time as funding permits. As such, the section following this one presents a recommended phasing plan with implementing strategies that will result in the ultimate improvement of the park consistent with the Master Plan and with the County of Los Angeles Green Building Program as approved in 2008.

Opinion of Probable Costs - Basis and Assumptions

This document is based on the measurement and pricing of quantities wherever information is provided and/or reasonable assumptions for other work not covered in the drawings or specifications, as stated within this document. Unit rates have been obtained from historical records and/or discussion with contractors. The unit rates reflect current bid costs in the area. All unit rates relevant to subcontractor work include the subcontractors overhead and profit unless otherwise stated. The mark-ups cover the costs of field overhead, home office overhead and profit and range from 15% to 25% of the cost for a particular item of work.

This Opinion of Probable Costs is based on conceptual design and thus represents the estimators best judgement of the project without being able to precisely cost park elements that have not yet reached final design determination. Line items include all labor and materials to accomplish construction. For example, "Play Areas" includes all play structure, landscaping, irrigation, surfacing materials, seating and other elements that would typically be part of a play area design.

Opinion of Probable Costs - Overall Summary

	Park	Building/ parking	Off-site	Total
	$x1,000	$x1,000	$x1,000	$x1,000
Demolition of building and structures				
Existing building structures (two buildings)	0	193	0	193
Water fountain	0	9	0	9
Site clearing and grading	408	240	35	683
	408	441	35	884
Building				
Community center (New)	0	6,375	0	6,375
Yacht club (New)	0	6,825	0	6,825
Recreational Boating Center (New)	0	10,010	0	10,010
North Restrooms (New)	788	0	0	788
South Restrooms (New)	338	0	0	338
Café / Restrooms/ Maintenance (New)	0	1,698	0	1,698
Boathouse building (Renovation)	0	2,600	0	2,600
Waterside dock (Improvements)	0	17,052	0	17,052
	1,125	44,559	0	45,684
Parking				
Onsite surface parking, 145 spaces (Auto and Boat)	0	363	0	363
Offsite parking structure, 160 spaces	0	0	2,880	2,880
	0	363	2,880	3,243
Sitework				
Play Areas	606	0	0	606
Landscape				
Performance green	1,271	0	0	1,271
North chace green	208	0	0	208
South chace green	268	0	0	268
Pathways, decomposed granite	410	0	0	410
Waterfront walk, decomposed granite	1,150	0	0	1,150
Green river, grey water swale	293	0	0	293
Open water/Wetland area	41	0	0	41
Paving and landscaping in building and on-site	0	1,533	0	1,533
Site structures				
Foot bridge	67	0	0	67
Sculptural water element	100	0	0	100
Small pier over open water	34	0	0	34
Seat wall	350	0	0	350
Concrete entry wall with trellis	183	0	0	183
Steel railing to waterfront	503	0	0	503
Fishing pier	297	0	0	297
Performance tent structure (Pavilion)	440	0	0	440
	6,219	1,533	0	7,752
Park elements				
Picnic tables trellis	160	0	0	160
Still water pool (small)	75	0	0	75
Horizon line pool (at entry)	150	0	0	150
	385	0	0	385
Site utilities				
Windmill	275	0	0	275
Cistern	0	70	0	70
Storm water underground storage tank, 140,000 gallons	0	250	0	250
Water,electrical, mechanical utilities	300	700	0	1,000
	575	1,020	0	1,595
Off site work (Mindanao Way)				
Sidewalk	0	0	147	147
Bioswale	0	0	142	142
	0	0	289	289
TOTAL Building and Sitework Construction	8,713	47,916	3,204	59,832
Escalation to Start Date 8.00%	697	3,833	256	4,787
TOTAL Building & Sitework Construction, including escalation January 2011	***9,410***	***51,749***	***3,460***	***64,619***

Opinion of Probable Costs - Park Component Summary

	Gross Floor Area	$ / SF	$x1,000
Demolition of building and structures			
Site clearing and grading	408,120 SF	1.00	408
			408
Building			
North Restrooms	1,750 SF	450.00	788
South Restrooms	750 SF	450.00	338
			1,125
Sitework			
Play Areas	18,360 SF	33.00	606
Landscape			
Performance green	127,143 SF	10.00	1,271
North Chace green	20,826 SF	10.00	208
South Chace green	26,754 SF	10.00	268
Pathways, decomposed granite	31,557 SF	13.00	410
Waterfront walk , decomposed granite	88,486 SF	13.00	1,150
Green river, grey water swale	19,500 SF	15.00	293
Open water/Wetland area	2,700 SF	15.00	41
Site structures			
Foot bridge	67 LF	1,000.00	67
Sculptural water element	1 LS	100,000.00	100
Small pier over open water	34 LF	1,000.00	34
Seat wall	1,400 LF	250.00	350
Concrete entry wall with trellis	203 LF	900.00	183
Steel railing to waterfront	3,350 LF	150.00	503
Fishing pier	2,967 SF	100.00	297
Performance tent structure (Pavilion)	3,792 SF	116.00	440
			6,219
Park elements			
Picnic tables trellis	16 EA	10,000.00	160
Still water pool (small)	3 EA	25,000.00	75
Horizon line pool (at entry)	1 EA	150,000.00	150
			385
Site utilities			
Windmill	11 EA	25,000.00	275
Water,electrical, mechanical utilities	1 LS	300,000.00	300
			575
TOTAL Building and Sitework Construction			8,713
Escalation to Start Date	8.00%		697
TOTAL Building & Sitework Construction, including escalation	***January 2011***		***9,410***

Opinion of Probable Costs - Building & Onsite Parking Component Summary

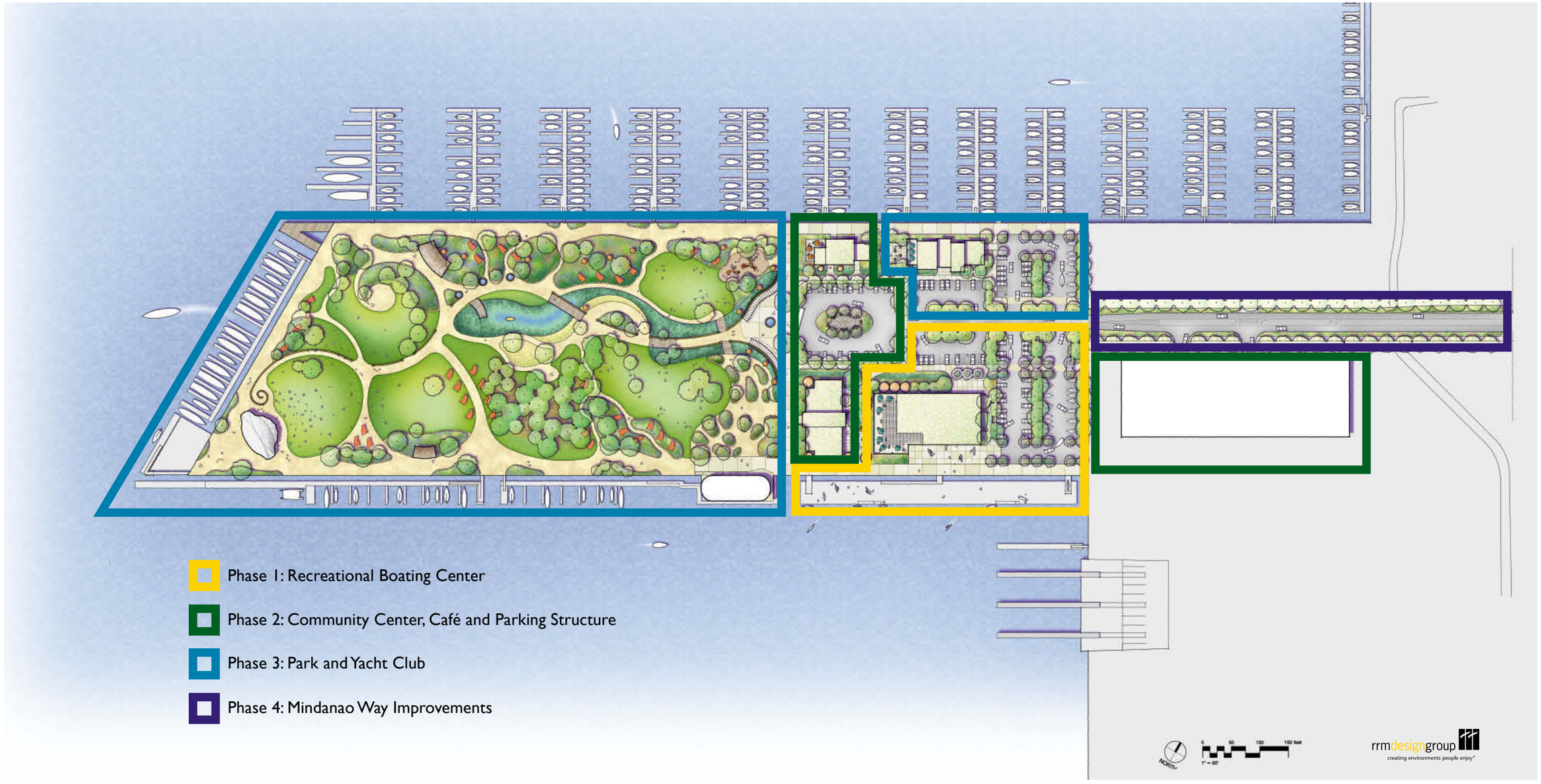
	Gross Floor Area	$ / SF	$x1,000
Demolition of building and structures			
Existing building structures (four buildings)	17,516 SF	11.00	193
Water fountain	1,262 SF	7.00	9
Site clearing and grading	239,629 SF	1.00	240
			441
Building			
Community center (new)	15,000 SF	425.00	6,375
Yacht club (new)	13,000 SF	525.00	6,825
Recreational Boating Center (new)	30,800 SF	325.00	10,010
Café / Restrooms / Maintenance (new)	3,773 SF	450.00	1,698
Boathouse (renovation)	5,922 SF	439.00	2,600
Waterside dock (improvements)	19,333 SF	882.00	17,052
			44,559
Parking			
Onsite surface parking (Auto and Boat)	145 Spaces	2,500.00	363
			363
Sitework			
Paving and landscaping	153,276 SF	10.00	1,533
			1,533
Site utilities			
Cistern	7 EA	10,000.00	70
Storm water underground storage tank, 140,000 gallons	1 EA	250,000.00	250
Water, electrical, mechanical utilities	1 LS	700,000.00	700
			1,020
TOTAL Building and Sitework Construction			47,916
Escalation to Start Date	8.00%		3,833
TOTAL Building & Sitework Construction, including escalation	***January 2011***		***51,749***

Opinion of Probable Costs - Offsite Component Summary

	Gross Floor Area	$ / SF	$x1,000
Demolition of building and structures			
Site clearing and grading	34,933 SF	1.00	35
			35
Parking			
Offsite parking structure (Mindanao Way improvements)	160 Spaces	18,000.00	2,880
			2,880
Off site work (Mindanao Way)			
Sidewalk	11,333 SF	13.00	147
Bioswale	23,600 SF	6.00	142
			289
TOTAL Building and Sitework Construction			3,204
Escalation to Start Date		8.00%	256
TOTAL Building & Sitework Construction, including escalation		***January 2011***	***3,460***

Implementation/Phasing

The graphic below describes a possible approach to the phasing of project implementation.



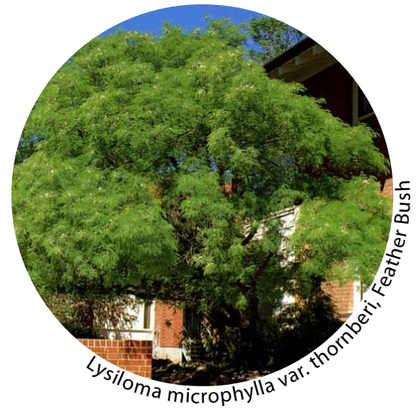
Planting Reference Images and Lists - Tree

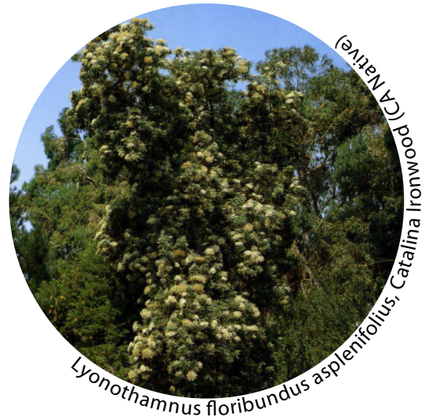

Agonis flexuosa, Peppermint Tree


Dracaena draco, Dragon Tree


Dasylirion quadrangulatum, Mexican Grass Tree


Quercus tomentella, Island Oak (CA Native)


Lysiloma microphylla var. thornberi, Feather Bush


Lyonothamnus floribundus asplenifolius, Catalina Ironwood (CA Native)


Pinus pinea, Italian Stone Pine


Lagerstroemia indica, Crape Myrtle


Platanus mexicana, Mexican Sycamore


Erythrina caffra, Corral Tree


Metrosideros excelsus, N.Z. Christmas Tree


Grevillea robusta, Silk Oak

Planting Reference Images and Lists - Shrub


Encelia californica, California Encelia

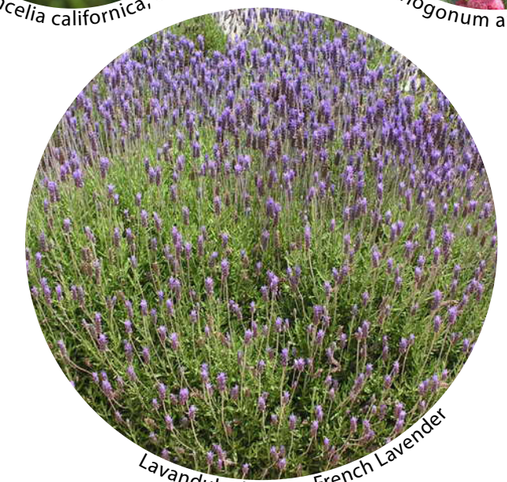

Eriogonum arborescens, Santa Cruz Is. Buckwheat


Rhamnus californica, Coffeeberry


Salvia apiana, White Sage


Ribes sanguineum, Pink Whinter Currant


Correa pulchella, Pink Australian Fuchsia


Lavandula dentata, French Lavender


Eriogonum crocatum, Saffron Buckwheat


Cistus x skanbergii, Rockrose Hybrid


Grevillea lanigera, Woolly Grevillea


Arctostaphylos manzanita, Manzanita


Rosa californica, California Wild Rose


Romneya coulteri, Coulter's Matilija Poppy


Leonotis leonurus, Lion's Tail


Justicia brandegeeana, Shrimp Plant


Ceanothus greggii, Cup Leaf Ceanothus


Mimulus aurantiacus, Sticky Monkeyflower


Salvia clevelandii, Cleveland's Sage

Planting Reference Images and Lists - Perennial


Agastache rupestris, Licorice Mint

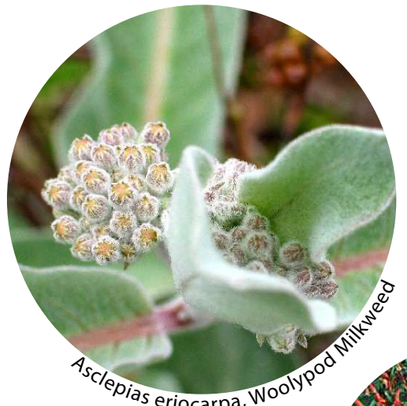

Eryngium aplinum, Alpine Sea Holly


Arabis sparsiflora var. arcuata, Elegant Rockcress


Echeveria elegans, Mexican Snowball


Coreopsis grandiflora, Raising Fun Tickseed


Erigeron glaucus, Beach Aster


Asclepias eriocarpa, Woolypod Milkweed

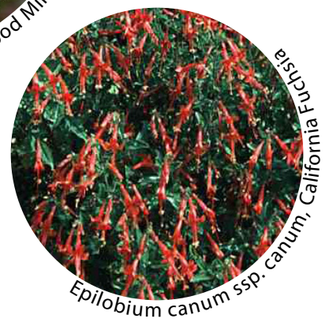

Lupinus chamissonis, Dune Bush Lupine


Eriophyllum confertiflorum, Golden Yarrow


Erigeron speciosus, Flea Bane


Eriogonum grand rubescens, Red Buckwheat


Allium crispum, Wild Onion


Epilobium canum ssp. canum, California Fuchsia


Gaillardia grandiflora, Blanket Flower


Veronica pectinata, Speedwell

Planting Reference Images and Lists - Vine, Grass, Wetland

Vine

Bougainvillea

Calystegia macrostegia ssp. cyclostegia

Clematis ligusticifolia

Cucurbita foetidissima

Lonicera hispidula ar. vacillans

Lonicera subspicata var. denudata

Passiflora caerulea

Thumbergia alata

Clematis ligusticifolia

Bougainvillea

Grass

Agrostis hooverie

Aristidea purpurea

Bouteloa gracilis, Blue Grama

Carex elata 'aurea', Bowles Golden

Carex subusca, Rusty Sadge

Carex ssp. obispoensis

Elymus glaucus ssp. glaucus

Koeleria macrantha

Leymus arenarius

Leymus cinereus

Leymus condensatus

Leymus triticoides

Muhlengergia capillaris

Muhlenbergia dumosa

Muhlengergia emersleyi

Muhlenbergia lindheimeri

Muhengergia pubescens

Nassella lepida

Nassella lepida (stipa l. var. l.)

Nassella pulchra

Bouteloa gracilis, Blue Grama

Carex elata 'aurea', Bowles Golden

Wetland

Anemopsis californica, Yerba mansa

Bidens laevis, Joaquin Sunflower

Grindelia camporum var. comprum

Juncus patens

Juncus effusus

Scirpus americanus

Anemopsis californica, Yerba Mansa

Bidens laevis, Joaquin Sunflower